GenCore version 4.5

OM nucleic - nucleic search, using sw model

Run on: March 9, 2002, 01:06:56 ; Search time 755.06 Seconds
(without alignments)
32.928 Million cell updates/sec

Title: US-09-851-670-5
Perfect score: 29
Sequence: 1 tttggctttggtcgttcgttctgttttca 29

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 930621 seqs, 428662619 residues

Total number of hits satisfying chosen parameters: 1026190

Minimum DB seq length: 0
Maximum DB seq length: 60

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : N_Geneseq_1101:*
1: /SIDS2/gcgdata/geneseq/geneseqn/NA1980.DAT:*
2: /SIDS2/gcgdata/geneseq/geneseqn/NA1981.DAT:*
3: /SIDS2/gcgdata/geneseq/geneseqn/NA1982.DAT:*
4: /SIDS2/gcgdata/geneseq/geneseqn/NA1983.DAT:*
5: /SIDS2/gcgdata/geneseq/geneseqn/NA1984.DAT:*
6: /SIDS2/gcgdata/geneseq/geneseqn/NA1985.DAT:*
7: /SIDS2/gcgdata/geneseq/geneseqn/NA1986.DAT:*
8: /SIDS2/gcgdata/geneseq/geneseqn/NA1987.DAT:*
9: /SIDS2/gcgdata/geneseq/geneseqn/NA1988.DAT:*
10: /SIDS2/gcgdata/geneseq/geneseqn/NA1989.DAT:*
11: /SIDS2/gcgdata/geneseq/geneseqn/NA1990.DAT:*
12: /SIDS2/gcgdata/geneseq/geneseqn/NA1991.DAT:*
13: /SIDS2/gcgdata/geneseq/geneseqn/NA1992.DAT:*
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15: /SIDS2/gcgdata/geneseq/geneseqn/NA1994.DAT:*
16: /SIDS2/gcgdata/geneseq/geneseqn/NA1995.DAT:*
17: /SIDS2/gcgdata/geneseq/geneseqn/NA1996.DAT:*
18: /SIDS2/gcgdata/geneseq/geneseqn/NA1997.DAT:*
19: /SIDS2/gcgdata/geneseq/geneseqn/NA1998.DAT:*
20: /SIDS2/gcgdata/geneseq/geneseqn/NA1999.DAT:*
21: /SIDS2/gcgdata/geneseq/geneseqn/NA2000.DAT:*
22: /SIDS2/gcgdata/geneseq/geneseqn/NA2001.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Result No.	Score	% Query Match	Length	DB	ID	Description
c	1	17	58.6	54	17	AAX64457	Rabbit stromelysin
	2	16.8	57.9	54	21	AAC11234	Human secreted pro
c	3	16.4	56.6	30	22	AAS00064	Synthetic encoded
c	4	16.2	55.9	54	16	AAT56654	Human TNF-alpha ha
	5	16	55.2	18	22	AAF79620	Human Akt-3 antise
c	6	15.8	54.5	39	21	AAA38033	PCR primer for pho
c	7	15.4	53.1	54	17	AAX64405	Human stromelysin
c	8	15.4	53.1	54	18	AAX75437	Mouse flt-1 VEGF r
	9	14.8	51.0	18	22	AAF79619	Human Akt-3 antise
c	10	14.8	51.0	30	20	AAX15829	PCR primer TH136 o
	11	14.8	51.0	50	10	AAN92002	Sequence probe com
	12	14.8	51.0	56	22	AAF61490	Hirudin/oprF fusio
c	13	14.6	50.3	24	22	AAF82975	Human DNMT3L cDNA
	14	14.6	50.3	29	21	AAA59663	PCR primer for cDN
c	15	14.6	50.3	54	17	AAX64475	Rabbit stromelysin
c	16	14.6	50.3	54	18	AAX71655	Human KDR VEGF rec
c	17	14.6	50.3	54	18	AAX70194	Human flt1 VEGF re
c	18	14.6	50.3	54	18	AAX62681	Granule bound star
c	19	14.4	49.7	26	15	AAQ72851	Primer 32 to ampli
	20	14.4	49.7	28	18	AAT80548	Methanol regulated
	21	14.4	49.7	30	14	AAQ35279	UL9 polyT test seq
	22	14.4	49.7	30	15	AAQ69859	UL9 polyT test seq
	23	14.4	49.7	30	18	AAT49549	UL9 binding site s
	24	14.4	49.7	30	20	AAX17609	HSV UL9 protein de
c	25	14.4	49.7	42	19	AAV30388	Oligomer p42rg26 u
c	26	14.4	49.7	54	17	AAX67223	Mouse CD40 hairpin
c	27	14.2	49.0	20	22	AAF87704	Avian infectious b
c	28	14.2	49.0	21	21	AAZ40335	PCR primer P1. Sy
	29	14.2	49.0	31	21	AAA30492	C. tropicalis CPRB
	30	14.2	49.0	35	18	AAT93823	Antitumoural phosp
c	31	14.2	49.0	35	21	AAZ55222	Neisseria species
c	32	14.2	49.0	38	21	AAA71541	S. putrefaciens PK
c	33	14.2	49.0	40	18	AAT92677	EBV gene specific
	34	14.2	49.0	41	18	AAT93841	Phosphodiester oli
c	35	14.2	49.0	43	18	AAT78832	Gamma heavy chain
c	36	14.2	49.0	43	19	AAV39273	Primer O-544 used
c	37	14.2	49.0	43	20	AAZ22027	Oligonucleotide us
	38	14.2	49.0	49	18	AAT80460	Hepatoma AS-30D Ty
c	39	14.2	49.0	51	21	AAA40468	Plasmid pHLSLA3 DN
	40	14.2	49.0	51	22	AAH37804	Human SNP flanking
	41	14.2	49.0	54	16	AAT23964	Human gene signatu
	42	14.2	49.0	56	21	AAC11206	Human secreted pro
	43	14.2	49.0	56	21	AAC11274	Human secreted pro
	44	14	48.3	23	22	AAH55918	Human SCN1A PCR-SS
	45	14	48.3	39	18	AAT87121	IFN-gamma 2'F RNA

ALIGNMENTS

RESULT 1
AAX64457/c
ID AAX64457 standard; RNA; 54 BP.
XX
AC AAX64457;
XX
DT 20-JUL-1999 (first entry)
XX
DE Rabbit stromelysin hairpin ribozyme SEQ ID NO:1089.
XX
KW Arthritic condition; graft tolerance; immune response; target; cleavage;
KW hammerhead ribozyme; hairpin ribozyme; human; rabbit; mouse; collagenase;
KW stromelysin; synovial membrane; joint; arthritis; osteoarthritis;
KW rheumatoid arthritis; autoimmune disease; allergy; inflammation;
KW diagnosis; ss.
XX
OS Synthetic.
OS Oryctolagus cuniculus.
XX
PN WO9618736-A2.
XX
PD 20-JUN-1996.
XX
PF 22-NOV-1995; 95WO-US15516.
XX
PR 05-OCT-1995; 95US-0541365.
PR 13-DEC-1994; 94US-0354920.
PR 23-DEC-1994; 94US-0363253.
PR 23-DEC-1994; 94US-0363254.
PR 17-FEB-1995; 95US-0390850.
PR 20-APR-1995; 95US-0426124.
PR 02-MAY-1995; 95US-0432874.
PR 04-MAY-1995; 95US-0434509.
PR 07-JUL-1995; 95US-0000951.

PR 07-JUL-1995; 95US-0000974.
PR 07-AUG-1995; 95US-0512861.
XX
PA (RIBO-) RIBOZYME PHARM INC.
XX
PI Draper K, Gustofson J, McSwiggen J, Pavco P, Stinchcomb DT;
PI Beigelman L, Karpeisky A, Modak A, Usman N, Burgin A;
PI Matulic-Adamic J, Jarvis T, Thompson JD, Wincott F;
XX
DR WPI; 1996-300653/30.
XX
PT Enzymatic nucleic acid molecules having a hammer-head motif - used
PT for the treatment of arthritis, induction of graft tolerance or
PT treatment of auto-immune diseases
XX
PS Example 1; Page 165; 307pp; English.
XX
CC The present invention describes a novel enzymatic nucleic acid (ENA)
CC having a hammerhead motif (HM) comprising: (i) at least 5 ribose
CC residues; (ii) a 2'-C-allyl modification at position 4 of the ENA; (iii)
CC at least ten 2'-O-methyl modifications; and (iv) a 3'-end modification.
CC The ENA's can inhibit collagenase and stromelysin production in the
CC synovial membrane of joints for the treatment or prevention of arthritis,
CC particularly osteoarthritis or rheumatoid arthritis. The ENA's can also
CC be used to treat antigen presenting cells of a donor to induce tolerance
CC in a recipient to an alloantigen of a donor. They can also be used for
CC enhancing graft tolerance or for treating autoimmune disease, and for
CC treating allergies and other inflammatory conditions. The ENA's can also
CC be used in diagnosis. Ribozyme therapy impacts on the expression of
CC stromelysin without introducing the non-specific effects upon gene
CC expression which accompany treatment with retinoids and dexamethasone.
CC The concentration of ribozyme required to affect a therapeutic treatment
CC is lower than that required of antisense molecules, and is highly
CC specific. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 54 BP; 20 A; 12 C; 13 G; 9 U; 0 other;

```
  Query Match             58.6%;  Score 17;  DB 17;  Length 54;
  Best Local Similarity   80.0%;  Pred. No. 3.9e+02;
  Matches   20;  Conservative    0;  Mismatches    5;  Indels    0;  Gaps    0;

Qy       1 tttggctttggtcgttcgttctgtt 25
           | |  || ||||||||| |||||||
Db      30 TGTTTCTCTGGTCGTTCCTTCTGTT 6
```

RESULT 2
AAC11234
ID AAC11234 standard; cDNA; 54 BP.
XX
AC AAC11234;
XX
DT 06-OCT-2000 (first entry)
XX
DE Human secreted protein 5' EST, SEQ ID NO: 15309.
XX
KW Human; 5' EST; expressed sequence tag; secreted protein; cDNA isolation;
KW gene therapy; chromosome mapping; ss.
XX
OS Homo sapiens.
XX
PN EP1033401-A2.
XX
PD 06-SEP-2000.
XX
PF 21-FEB-2000; 2000EP-0200610.
XX
PR 26-FEB-1999; 99US-0122487.
XX
PA (GEST) GENSET.
XX
PI Dumas Milne Edwards J, Duclert A, Giordano J;
XX
DR WPI; 2000-500381/45.
XX
PT New nucleic acid that is a 5' expressed sequence tag (5' EST) for
PT obtaining cDNAs and genomic DNAs that correspond to 5'ESTs and for
PT diagnostic, forensic, gene therapy and chromosome mapping procedures -
XX
PS Claim 1; SEQ ID 15309; 71pp + CD-ROM; English.
XX
CC The present sequence is one of a large number of 5' ESTs derived from
CC mRNAs encoding secreted proteins. No ORF has yet been conclusively
CC identified within the present sequence. The 5' ESTs were prepared from
CC total human RNAs or polyA+ RNAs derived from 30 different tissues. EST
CC sequences usually correspond mainly to the 3' untranslated region (UTR)
CC of the mRNA because they are often obtained from oligo-dT primed cDNA
CC libraries. Such ESTs are not well suited for isolating cDNA sequences
CC derived from the 5' ends of mRNAs and even in those cases where longer
CC cDNA sequences have been obtained, the full 5' UTR is rarely included.
CC 5' ESTs are derived from mRNAs with intact 5' ends and can therefore be
CC used to obtain full length cDNAs and genomic DNAs. 5' ESTs are also used
CC in diagnostic, forensic, gene therapy and chromosome mapping procedures.
CC They are used to obtain upstream regulatory sequences and to design
CC expression and secretion vectors.
XX
SQ Sequence 54 BP; 9 A; 5 C; 12 G; 28 T; 0 other;

```
  Query Match             57.9%;  Score 16.8;  DB 21;  Length 54;
  Best Local Similarity   75.0%;  Pred. No. 4.7e+02;
  Matches   21;  Conservative    0;  Mismatches    7;  Indels    0;  Gaps    0;

Qy       2 ttggctttggtcgttcgttctgttttca 29
           || | ||| || | | ||| ||||||||
Db       6 ttagtttttgttggtggttttgttttca 33
```

RESULT 3
AAS00064/c
ID AAS00064 standard; DNA; 30 BP.
XX
AC AAS00064;
XX
DT 12-SEP-2001 (first entry)
XX
DE Synthetic encoded DNA linker.
XX
KW Encoded linker; microarray; protein display; addressing element; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 30
FT /*tag= a
FT /mod_base= OTHER
FT /note= "Other= Covalently linked to puromycin"
XX
PN WO200116352-A1.
XX
PD 08-MAR-2001.
XX
PF 25-AUG-2000; 2000WO-US23414.
XX
PR 27-AUG-1999; 99US-0151261.
XX
PA (PHYL-) PHYLOS INC.
XX
PI Kuimelis RG;
XX
DR WPI; 2001-183261/18.
XX
PT Encoding and sorting in vitro translated proteins, useful for the
PT identification of desired binding partners, comprises attaching a

PT nucleic acid linker to the protein and binding an encoding molecule to
PT the linker -
XX
PS Example 2; Fig 5B; 48pp; English.
XX
CC The sequence represents a DNA linker containing the 16-mer
CC addressing element (covalently linked to an in vitro translated protein)
CC used in methods to hybridise to a capture probe in order to immobilise
CC the protein to a solid support. The new methods are useful for tagging or
CC encoding in vitro translated proteins with unique and minimal encoding
CC molecules and sorting these molecules onto solid supports. They are also
CC useful for the identification of a desired binding partner. The method
CC allows the use of pre-made sets of universal encoding molecules, such as
CC nucleic acid(s) (analogues). These can be used in conjunction with
CC corresponding universal microarrays or sets of microparticles to create
CC new protein display systems which are flexible, modular, scalable and
CC cost effective. The method allows the use of nucleic acid analogues which
CC are not susceptible to enzymatic incorporation or polymerisation and are
CC superior to conventional DNA/RNA. The proteins can also be labelled with
CC fluorescent groups which can be used to monitor the protein in real time.
CC The absence of RNA is advantageous as they can adopt secondary structures
CC which are difficult to predict and can interfere with hybridisation steps
CC and protein folding/function.
XX
SQ Sequence 30 BP; 20 A; 7 C; 3 G; 0 U; 0 other;

Query Match 56.6%; Score 16.4; DB 22; Length 30;
Best Local Similarity 76.9%; Pred. No. 6.5e+02;
Matches 20; Conservative 0; Mismatches 6; Indels 0; Gaps 0;

Qy 2 ttggctttggtcgttcgttctgtttt 27
||||| || |||||| || | ||||
Db 27 TTGGCCTTTGTCGTTTTTTTTTTTTT 2

RESULT 4
AAT56654/c
ID AAT56654 standard; RNA; 54 BP.
XX
AC AAT56654;
XX
DT 19-MAR-1997 (first entry)
XX
DE Human TNF-alpha hairpin ribozyme sequence (nt. position 1168).
XX
KW Enzymatic nucleic acid; ribozyme; trans cleavage; inhibition;
KW gene expression; downregulation; interleukin-5; IL-5; ICAM-1;
KW intercellular adhesion molecule; rel A; tumour necrosis factor;
KW TNF-alpha; respiratory syncytial virus; RSV; bcr-abl; oncogene;
KW translocation; chronic myelogenous leukaemia; CML; cancer;
KW Philadelphia chromosome; inflammation; autoimmune disease;
KW atherosclerosis; myocardial infarction; stroke; restenosis;
KW transplant rejection; rheumatoid arthritis; psoriasis;
KW myocardial ischaemia; Kawasaki disease; septic shock; HIV;
KW human immunodeficiency virus; acquired immune deficiency syndrome;
KW AIDS; ss.
XX
OS Synthetic.
XX
PN WO9523225-A2.
XX
PD 31-AUG-1995.
XX
PF 23-FEB-1995; 95WO-IB00156.
XX
PR 30-JAN-1995; 95US-0380734.
PR 23-FEB-1994; 94US-0201109.
PR 29-MAR-1994; 94US-0218934.
PR 04-APR-1994; 94US-0222795.
PR 07-APR-1994; 94US-0224483.
PR 15-APR-1994; 94US-0227958.
PR 15-APR-1994; 94US-0228041.
PR 18-MAY-1994; 94US-0245736.
PR 06-JUL-1994; 94US-0271280.
PR 15-AUG-1994; 94US-0291932.
PR 16-AUG-1994; 94US-0291433.
PR 17-AUG-1994; 94US-0292620.
PR 19-AUG-1994; 94US-0293520.
PR 02-SEP-1994; 94US-0300000.
PR 08-SEP-1994; 94US-0303039.
PR 23-SEP-1994; 94US-0311486.
PR 23-SEP-1994; 94US-0311749.
PR 28-SEP-1994; 94US-0314397.
PR 03-OCT-1994; 94US-0316771.
PR 07-OCT-1994; 94US-0319492.
PR 11-OCT-1994; 94US-0321993.
PR 04-NOV-1994; 94US-0334847.
PR 10-NOV-1994; 94US-0337608.
PR 28-NOV-1994; 94US-0345516.
PR 16-DEC-1994; 94US-0357577.
PR 23-DEC-1994; 94US-0363233.
XX
PA (RIBO-) RIBOZYME PHARM INC.
XX
PI Stinchcomb DT, Chowrira B, Direnzo A, Draper KG, Dudycz LW;
PI Grimm S, Karpeisky A, Kisich K, Matulic-Adamic J;
PI McSwiggen JA, Modak A, Pavco P, Beigelman L, Sullivan SM;
PI Sweedler D, Thompson JD, Tracz D, Usman N, Wincott FE;
PI Woolf T;
XX
DR WPI; 1995-351090/45.
XX
PT Ribozymes having modified bases and methods for producing them -
PT for use in inhibiting disease related genes
XX
PS Claim 9; Page 259; 407pp; English.
XX
CC The present sequence is that of a claimed enzymatic nucleic acid
CC (i.e. a ribozyme) which cleaves TNF-alpha mRNA at the nucleotide
CC base position indicated in the DE line.
CC Regions of the mRNA that do not form secondary folding
CC structures and that contain potential hammerhead and hairpin
CC ribozyme cleavage sites were identified by computer analysis.
CC Ribozymes directed against these mRNA sequences were designed and
CC synthesised with modifications that improve their nuclease
CC resistance. The ribozymes are designed to cleave the target
CC sequences and thereby inhibit TNF-alpha expression, making them
CC potentially useful for treating rheumatoid arthritis, septic shock
CC and other inflammatory disorders including psoriasis, as well as
CC for treatment of AIDS.
XX
SQ Sequence 54 BP; 20 A; 10 C; 15 G; 9 U; 0 other;

Query Match 55.9%; Score 16.2; DB 16; Length 54;
Best Local Similarity 72.4%; Pred. No. 8.2e+02;
Matches 21; Conservative 0; Mismatches 8; Indels 0; Gaps 0;

Qy 1 tttggctttggtcgttcgttctgttttca 29
| | || ||||| || |||||||| ||
Db 30 TGTTTCTCTGGTCTCTCCTTCTGTTTCCA 2

RESULT 5
AAF79620
ID AAF79620 standard; DNA; 18 BP.
XX
AC AAF79620;
XX
DT 29-MAY-2001 (first entry)
XX
DE Human Akt-3 antisense oligonucleotide, SEQ ID NO: 28.
XX
KW Human; Akt-3; protein kinase; cytostatic; antiinflammatory; infection;
KW antisense therapy; inflammation; tumour; ss.

XX
OS Homo sapiens.
XX
PN US6187586-B1.
XX
PD 13-FEB-2001.
XX
PF 29-DEC-1999; 99US-0474922.
XX
PR 29-DEC-1999; 99US-0474922.
XX
PA (ISIS-) ISIS PHARM INC.
XX
PI Monia BP, Cowsert LM, Roth RA;
XX
DR WPI; 2001-264979/27.
XX
PT New antisense compounds targeting nucleic acids encoding human Akt-3
PT useful for treating a disease or condition associated with Akt-3
PT expression, or in preventing or delaying inflammation or tumor.
PT formation -
XX
PS Example 15; Column 38; 37pp; English.
XX
CC The present sequence is one of a number of antisense compounds of up to
CC 30 nucleobases in length targeted to a nucleic acid encoding human Akt-3.
CC The antisense compounds are useful for inhibiting the expression of human
CC Akt-3 in human cells or tissues. They are also useful for modulating the
CC expression of Akt-3, and for treating a human or an animal suspected of
CC having, or being prone to, a disease or condition associated with Akt-3
CC expression. The antisense compounds may also be used as research
CC reagents, in kits and in diagnostics, e.g. to elucidate the function of a
CC particular gene or to distinguish between functions of various members of
CC a biological pathway; and as a prophylactic, e.g. to prevent or delay
CC infection, inflammation or tumour formation.
XX
SQ Sequence 18 BP; 0 A; 3 C; 6 G; 9 T; 0 other;

Query Match 55.2%; Score 16; DB 22; Length 18;
Best Local Similarity 100.0%; Pred. No. 8.9e+02;
Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 ttggctttggtcgttc 17
||||||||||||||||
Db 1 ttggctttggtcgttc 16

RESULT 6
AAA38033/c
ID AAA38033 standard; DNA; 39 BP.
XX
AC AAA38033;
XX
DT 22-AUG-2000 (first entry)
XX
DE PCR primer for phosphotrehalase enzyme (treA) gene amplification.
XX
KW Trehalose-6-phosphate synthase; TPS; trehalose metabolism; potato;
KW transgenic plant; sugarcane; sugarbeet; stress tolerant; food storage;
KW dehydration; PCR primer; treA; phosphotrehalase; ss.
XX
OS Bacillus subtilis.
XX
PN WO200022141-A2.
XX
PD 20-APR-2000.
XX
PF 15-OCT-1999; 99WO-EP07913.
XX
PR 15-OCT-1998; 98EP-0203469.
XX
PA (KUVL-) LEUVEN RES & DEV.
PA (BIOT-) INST BIOTECNOLOGIA UNAM.
XX
PI Iturriaga De La Fuente G, Thevelein JM, Van Dijck P;
PI Mascorro-Gallardo JO, Van Vaeck C;
XX
DR WPI; 2000-317993/27.
XX
PT Preparation of eukaryotic organisms containing a genetic modification
PT of the activity of trehalose-6-phosphate synthase useful for production
PT of systems which are tolerant to stress -
XX
PS Example 10; Page 40; 79pp; English.
XX
CC This invention relates to a method for the preparation of a eukaryotic
CC organism (plant, animal or fungi) which shows constitutive, inducible
CC and/or organ specific expression of a specifically modified
CC trehalose-6-phosphate synthase (TPS) gene. TPS is involved in trehalose
CC metabolism, alongside trehalose-6-phosphate phosphatase (TPP). Trehalose
CC metabolism plays an important role in storage sugar accumulation, stress
CC resistance, and the control of glucose influx into glycolysis and
CC glucose-induced signalling. The present sequence represents a PCR primer
CC used to amplify the Bacillus subtilis phosphotrehalase enzyme (treA)
CC gene. The PCR product is used in a Trehalose-6-phosphate assay. The assay
CC is used to test the effectiveness of the method of the invention. The
CC method involves deleting the N-terminal fragment of the TPS-1 protein in
CC order to achieve increased TPS-1 activity. The method provides plants,
CC animals or fungi with elevated activity of TPS and/or altered regulatory
CC capacity of TPS activity. Expression of TPS activity renders the
CC organisms tolerant to stress so that for example crop plants could be
CC cultured in regions suffering from heat, drought or freezing. Perishable
CC foods from plant or animal origin could be preserved by simple
CC dehydration, enabling storage over a prolonged period of time and
CC transport over long distances. Potato, sugarbeet and sugarcane can be
CC used as systems for overproducing trehalose which could then be used to
CC preserve biomolecules for industrial use such as restriction and
CC modification enzymes.
XX
SQ Sequence 39 BP; 15 A; 5 C; 11 G; 8 T; 0 other;

Query Match 54.5%; Score 15.8; DB 21; Length 39;
Best Local Similarity 89.5%; Pred. No. 1.1e+03;
Matches 17; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 11 gtcgttcgttctgttttca 29
| |||| ||||||||||||
Db 32 GGCGTTTGTTCTGTTTTCA 14

RESULT 7
AAX64405/c
ID AAX64405 standard; RNA; 54 BP.
XX
AC AAX64405;
XX
DT 20-JUL-1999 (first entry)
XX
DE Human stromelysin hairpin ribozyme SEQ ID NO:1037.
XX
KW Arthritic condition; graft tolerance; immune response; target; cleavage;
KW hammerhead ribozyme; hairpin ribozyme; human; rabbit; mouse; collagenase;
KW stromelysin; synovial membrane; joint; arthritis; osteoarthritis;
KW rheumatoid arthritis; autoimmune disease; allergy; inflammation;
KW diagnosis; ss.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO9618736-A2.
XX
PD 20-JUN-1996.
XX
PF 22-NOV-1995; 95WO-US15516.

```
XX
PR   05-OCT-1995;   95US-0541365.
PR   13-DEC-1994;   94US-0354920.
PR   23-DEC-1994;   94US-0363253.
PR   23-DEC-1994;   94US-0363254.
PR   17-FEB-1995;   95US-0390850.
PR   20-APR-1995;   95US-0426124.
PR   02-MAY-1995;   95US-0432874.
PR   04-MAY-1995;   95US-0434509.
PR   07-JUL-1995;   95US-0000951.
PR   07-JUL-1995;   95US-0000974.
PR   07-AUG-1995;   95US-0512861.
XX
PA   (RIBO-) RIBOZYME PHARM INC.
XX
PI   Draper K,  Gustofson J,  McSwiggen J,  Pavco P,  Stinchcomb DT;
PI   Beigelman L,  Karpeisky A,  Modak A,  Usman N,  Burgin A;
PI   Matulic-Adamic J,  Jarvis T,  Thompson JD,  Wincott F;
XX
DR   WPI; 1996-300653/30.
XX
PT   Enzymatic nucleic acid molecules having a hammer-head motif - used
PT   for the treatment of arthritis, induction of graft tolerance or
PT   treatment of auto-immune diseases
XX
PS   Example 1; Page 164; 307pp; English.
XX
CC   The present invention describes a novel enzymatic nucleic acid (ENA)
CC   having a hammerhead motif (HM) comprising: (i) at least 5 ribose
CC   residues; (ii) a 2'-C-allyl modification at position 4 of the ENA; (iii)
CC   at least ten 2'-O-methyl modifications; and (iv) a 3'-end modification.
CC   The ENA's can inhibit collagenase and stromelysin production in the
CC   synovial membrane of joints for the treatment or prevention of arthritis,
CC   particularly osteoarthritis or rheumatoid arthritis. The ENA's can also
CC   be used to treat antigen presenting cells of a donor to induce tolerance
CC   in a recipient to an alloantigen of a donor. They can also be used for
CC   enhancing graft tolerance or for treating autoimmune disease, and for
CC   treating allergies and other inflammatory conditions. The ENA's can also
CC   be used in diagnosis. Ribozyme therapy impacts on the expression of
CC   stromelysin without introducing the non-specific effects upon gene
CC   expression which accompany treatment with retinoids and dexamethasone.
CC   The concentration of ribozyme required to affect a therapeutic treatment
CC   is lower than that required of antisense molecules, and is highly
CC   specific. The present sequence is used in the exemplification of the
CC   present invention.
XX
SQ   Sequence 54 BP; 20 A; 12 C; 12 G; 10 U; 0 other;

  Query Match             53.1%;  Score 15.4;  DB 17;  Length 54;
  Best Local Similarity   76.0%;  Pred. No. 1.7e+03;
  Matches   19;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy      1 tttggctttggtcgttcgttctgtt 25
          | |  || |||| |||| |||||||
Db     30 TGTTTCTCTGGTAGTTCCTTCTGTT 6


RESULT   8
AAX75437/c
ID   AAX75437 standard; RNA; 54 BP.
XX
AC   AAX75437;
XX
DT   28-JUL-1999  (first entry)
XX
DE   Mouse flt-1 VEGF receptor hairpin ribozyme #21.
XX
KW   Vascular endothelial growth factor receptor; VEGF receptor; flt-1;
KW   flk-1; KDR; hammerhead ribozyme; hairpin ribozyme; cleavage;
KW   tumour angiogenesis; psoriasis; rheumatoid arthritis; ocular disease;
KW   fms-like tyrosine kinase 1; kinase insert domain containing receptor;
KW   foetal liver kinase 1; ss.
XX
OS   Synthetic.
OS   Mus sp.
XX
PN   WO9715662-A2.
XX
PD   01-MAY-1997.
XX
PF   25-OCT-1996;   96WO-US17480.
XX
PR   11-JAN-1996;   96US-0584040.
PR   26-OCT-1995;   95US-0005974.
XX
PA   (CHIR ) CHIRON CORP.
PA   (RIBO-) RIBOZYME PHARM INC.
XX
PI   Escobedo J,  McSwiggen J,  Pavco P,  Stinchcomb D;
XX
DR   WPI; 1997-259017/23.
XX
PT   Nucleic acid molecule modulating VEGF receptor(s) gene expression or
PT   mRNA stability  - useful for treating e.g. tumour angiogenesis,
PT   psoriasis, rheumatoid arthritis, etc., in a human patient
XX
PS   Claim 9; Page 185; 218pp; English.
XX
CC   The present invention describes nucleic acid molecules which modulate
CC   the synthesis, expression and/or stability of a mRNA encoding 1 or more
CC   receptors of vascular endothelial growth factor (VEGF). A patient
CC   (preferably human) having a condition associated with the level of the
CC   fms-like tyrosine kinase 1 (flt-1), kinase insert domain containing
CC   receptor (KDR) and/or foetal liver kinase 1 (flk-1) (e.g. tumour
CC   angiogenesis, ocular diseases, psoriasis and rheumatoid arthritis) can
CC   be treated by administering the nucleic acid molecule or the expression
CC   vector to the patient. AAX67275 to AAX75752 represent specific examples
CC   of nucleic acid molecules from the present invention.
XX
SQ   Sequence 54 BP; 20 A; 9 C; 14 G; 11 U; 0 other;

  Query Match             53.1%;  Score 15.4;  DB 18;  Length 54;
  Best Local Similarity   76.0%;  Pred. No. 1.7e+03;
  Matches   19;  Conservative    0;  Mismatches    6;  Indels    0;  Gaps    0;

Qy      1 tttggctttggtcgttcgttctgtt 25
          | |  || |||||||| |||| ||
Db     30 TGTTTCTCTGGTCGTTCCTTCTTTT 6


RESULT   9
AAF79619
ID   AAF79619 standard; DNA; 18 BP.
XX
AC   AAF79619;
XX
DT   29-MAY-2001  (first entry)
XX
DE   Human Akt-3 antisense oligonucleotide, SEQ ID NO: 27.
XX
KW   Human; Akt-3; protein kinase; cytostatic; antiinflammatory; infection;
KW   antisense therapy; inflammation; tumour; ss.
XX
OS   Homo sapiens.
XX
PN   US6187586-B1.
XX
PD   13-FEB-2001.
XX
PF   29-DEC-1999;   99US-0474922.
XX
PR   29-DEC-1999;   99US-0474922.
XX
PA   (ISIS-) ISIS PHARM INC.
```

XX
PI Monia BP, Cowsert LM, Roth RA;
XX
DR WPI; 2001-264979/27.
XX
PT New antisense compounds targeting nucleic acids encoding human Akt-3
PT useful for treating a disease or condition associated with Akt-3
PT expression, or in preventing or delaying inflammation or tumor
PT formation -
XX
PS Claim 1; Column 38; 37pp; English.
XX
CC The present sequence is one of a number of antisense compounds of up to
CC 30 nucleobases in length targeted to a nucleic acid encoding human Akt-3.
CC The antisense compounds are useful for inhibiting the expression of human
CC Akt-3 in human cells or tissues. They are also useful for modulating the
CC expression of Akt-3, and for treating a human or an animal suspected of
CC having, or being prone to, a disease or condition associated with Akt-3
CC expression. The antisense compounds may also be used as research
CC reagents, in kits and in diagnostics, e.g. to elucidate the function of a
CC particular gene or to distinguish between functions of various members of
CC a biological pathway; and as a prophylactic, e.g. to prevent or delay
CC infection, inflammation or tumour formation.
XX
SQ Sequence 18 BP; 1 A; 3 C; 4 G; 10 T; 0 other;

Query Match 51.0%; Score 14.8; DB 22; Length 18;
Best Local Similarity 88.9%; Pred. No. 2.7e+03;
Matches 16; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 12 tcgttcgttctgttttca 29
| | ||||||||||||||||
Db 1 ttggtcgttctgttttca 18

RESULT 10
AAX15829/c
ID AAX15829 standard; DNA; 30 BP.
XX
AC AAX15829;
XX
DT 26-MAY-1999 (first entry)
XX
DE PCR primer TH136 of the invention.
XX
KW Antibody; epitope; protein G; respiratory syncytial virus; RSV;
KW RSV-related disease; PCR primer; ss.
XX
OS Synthetic.
XX
PN WO9903987-A2.
XX
PD 28-JAN-1999.
XX
PF 17-JUL-1998; 98WO-FR01570.
XX
PR 17-JUL-1997; 97FR-0009079.
XX
PA (FABR) FABRE MEDICAMENT SA PIERRE.
XX
PI Beck A, Goestch L, Nguyen TN, Power U;
XX
DR WPI; 1999-132232/11.
XX
PT New antibodies directed against epitopes in protein G of respiratory
PT syncytial virus - used for treatment, prevention and diagnosis of
PT RSV infections
XX
PS Example 3; Page 15; 54pp; French.
XX
CC The present PCR primer is used in the course of the invention.
CC The specification describes mono- or poly-clonal antibodies that
CC are directed against an epitope that corresponds to amino acids
CC 150-159, 176-189, 194-207 or 155-176 of protein G of respiratory
CC syncytial virus (RSV), subgroups A or B. The antibodies are used
CC for treating, preventing (passive or active immunisation) and
CC diagnosing RSV-related diseases, including differentiating between
CC infection by subgroups A or B.
XX
SQ Sequence 30 BP; 14 A; 11 C; 5 G; 0 U; 0 other;

Query Match 51.0%; Score 14.8; DB 20; Length 30;
Best Local Similarity 73.1%; Pred. No. 2.8e+03;
Matches 19; Conservative 0; Mismatches 7; Indels 0; Gaps 0;

Qy 3 tggctttggtcgttcgttctgttttc 28
| | |||||||||| ||| | | |||
Db 28 TCGGTTTGGTCGTCGGTTTTTCTTC 3

RESULT 11
AAN92002
ID AAN92002 standard; DNA; 50 BP.
XX
AC AAN92002;
XX
DT 17-APR-1990 (first entry)
XX
DE Sequence probe complementary to Neisseria gonorrhoeae genomic sequence
DE SSJK1 combined with the xt1 capture sequence.
XX
KW Neisseria gonorrhoeae genomic sequence SSJK1; xt1 capture sequence;
KW file 'rcjk'; jk1.probes1(50).
XX
OS Neisseria gonorrhoeae.
XX
FH Key Location/Qualifiers
FT misc_feature 1..30
FT /*tag= a
FT /"sequence probe"
FT misc_feature 31..50
FT /*tag= b
FT /"xt1 capture sequence"
XX
PN WO8903891-A.
XX
PD 05-MAY-1989.
XX
PF 14-OCT-1988; 88WO-US03644.
XX
PR 30-SEP-1988; 88US-0252638, US-109282.
XX
PA (CHIR-) CHIRON CORP.
XX
PI Urdea MS, Warner B, Running JA, Kolberg JA, Clyne JM;
PI Sanchez-Pescador R;
XX
DR WPI; 1989-150787/20.
XX
PT Nucleic acid multimer for hybridisation assays
PT - having single-stranded oligo-nucleotide units
PT capable of binding specifically to sequences of interest.
XX
PS Fig 14; ; 112pp; English.
XX
CC The sequence probe (tag a) is complementary to N. gonorrhoeae genomic
CC sequence SSJK1 from the file 'rcjk'. It is used to assay crude cellular
CC lysates and genomic DNA from different bacteria. It is called
CC jk1.probes1(50).
XX
SQ Sequence 50 BP; 8 A; 7 C; 14 G; 21 T; 0 other;

Query Match 51.0%; Score 14.8; DB 10; Length 50;

Best Local Similarity 73.1%; Pred. No. 2.9e+03;
Matches 19; Conservative 0; Mismatches 7; Indels 0; Gaps 0;

```
Qy      2 ttggctttggtcgttcgttctgtttt 27
          | ||||||||| |||||   |  |||
Db      2 tcggctttggtagttcggctttattt 27
```

RESULT 12
AAF61490
ID AAF61490 standard; DNA; 56 BP.
XX
AC AAF61490;
XX
DT 18-JUN-2001 (first entry)
XX
DE Hirudin/oprF fusion construct associated primer pfuf2.
XX
KW Hirudin; outer membrane protein; oprF; lambB; fumarate reductase;
KW Leu-hirudin; Leu1-Thr2-63-desulfato-hirudin; antithrombotic; primer; ss.
XX
OS Serratia marcescens.
OS Pseudomonas fluorescens.
OS Synthetic.
XX
PN DE19944870-A1.
XX
PD 29-MAR-2001.
XX
PF 18-SEP-1999; 99DE-1044870.
XX
PR 18-SEP-1999; 99DE-1044870.
XX
PA (AVET) AVENTIS PHARMA DEUT GMBH.
XX
PI Habermann P, Bender R;
XX
DR WPI; 2001-246103/26.
XX
PT Hirudin precursor containing heterologous signal peptide, useful for
PT recombinant production of antithrombotic Leu-hirudin, is efficiently
PT secreted and processed -
XX
PS Example 2; Page 5; 12pp; German.
XX
CC This invention describes a novel hirudin precursor (I), comprising the
CC signal sequence from the outer membrane protein of Serratia marcescens,
CC the oprF protein of Pseudomonas fluorescens, the lambB protein of
CC Escherichia coli, or the fumarate reductase of Shewanella putrefaciens,
CC with the Leu-hirudin (LH) ((Leu1-Thr2)-63-desulfato-hirudin) sequence
CC linked to the C-terminus of the signal sequence. (I) is an intermediate
CC in recombinant production of LH, a known antithrombotic. The specified
CC signal sequence may also be used for secretory expression of other
CC proteins. (I) is processed directly to LH and this, in native form,
CC secreted from E. coli in high yield. This results, both during
CC fermentation and subsequent purification, in a higher concentration of
CC hirudin, reducing costs of production. The specified signal sequences
CC provide more efficient secretion than known sequences. This sequence
CC represents the primer pfuf2 which is used in the construction of the
CC S. marcescens hirudin gene/Pseudomonas fluorescens oprF signal sequence
CC fusion construct.
XX
SQ Sequence 56 BP; 11 A; 12 C; 11 G; 22 T; 0 other;

Query Match 51.0%; Score 14.8; DB 22; Length 56;
Best Local Similarity 73.1%; Pred. No. 2.9e+03;
Matches 19; Conservative 0; Mismatches 7; Indels 0; Gaps 0;

```
Qy      2 ttggctttggtcgttcgttctgtttt 27
          ||||  |||| | || ||||| || |
Db     25 ttgggcttggccattggttctcttat 50
```

RESULT 13
AAF82975/c
ID AAF82975 standard; DNA; 24 BP.
XX
AC AAF82975;
XX
DT 29-JUN-2001 (first entry)
XX
DE Human DNMT3L cDNA amplifying primer 10F2.
XX
KW DNA cytosine-5-methyltransferase; DNA methyltransferase; DNMT3L; human;
KW chromosomal locus 21q22.3; infertility; immune response; gene therapy;
KW antitumour; immunomodulator; contraceptive; RT-PCR; RACE; primer; ss.
XX
OS Homo sapiens.
XX
PN WO200127249-A1.
XX
PD 19-APR-2001.
XX
PF 13-OCT-2000; 2000WO-FI00891.
XX
PR 15-OCT-1999; 99US-0159762.
XX
PA (FIIM-) FINNISH IMMUNOTECHNOLOGY LTD.
PA (KROH/) KROHN K.
PA (AAPO/) AAPOLA U.
PA (SCOT/) SCOTT H.
PA (ANTO/) ANTONARAKIS S.
PA (SHIM/) SHIMIZU N.
PA (KUDO/) KUDOH.
PA (PETE/) PETERSON P.
XX
PI Krohn K, Aapola U, Scott H, Antonarakis S, Shimizu N, Kudoh J;
PI Peterson P;
XX
DR WPI; 2001-282017/29.
XX
PT New isolated DNA encoding DNA cytosine-5-methyltransferase, useful for
PT diagnosing and treating diseases associated with locus 21q22.3, such as
PT tumors and infertility -
XX
PS Example 2; Page 18; 54pp; English.
XX
CC The invention relates to a human DNA cytosine-5-methyltransferase,
CC (DNMT3L) and polynucleotides encoding the polypeptide. Detecting the
CC presence/absence of the DNMT3L gene, its derived protein or their
CC variants is used for diagnosing: (a) diseases associated with the
CC chromosomal locus 21q22.3, particularly tumours (especially of testis,
CC ovary and thymus); (b) infertility (especially in males) and disorders
CC of immune maturation or immune response regulation. The DNMT3L gene,
CC including antisense sequences, and protein are also useful for treatment
CC or prevention of these disorders (including by gene therapy), and for
CC development of male contraceptives. Sequences AAF82965-979 represent
CC primers for RT-PCR and RACE experiments for amplifying the human DNMT3L
CC cDNA.
XX
SQ Sequence 24 BP; 6 A; 9 C; 7 G; 2 T; 0 other;

Query Match 50.3%; Score 14.6; DB 22; Length 24;
Best Local Similarity 81.0%; Pred. No. 3.3e+03;
Matches 17; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

```
Qy      3 tggctttggtcgttcgttctg 23
          |||||| || ||| ||| |||
Db     23 TGGCTTGGGCCGTGCGTACTG 3
```

RESULT 14
AAA59663
ID AAA59663 standard; DNA; 29 BP.

XX
AC AAA59663;
XX
DT 14-NOV-2000 (first entry)
XX
DE PCR primer for cDNA encoding a human 12R-lipoxygenase polypeptide.
XX
KW Human; 12R-lipoxygenase; arachidonic acid; proliferate dermatosis;
KW 12R-hydroxyeicosatetraenoic acid; psoriasis; arachidonic acid metabolite;
KW PCR primer; ss.
XX
OS Homo sapiens.
XX
PN US6103496-A.
XX
PD 15-AUG-2000.
XX
PF 29-MAY-1998; 98US-0087727.
XX
PR 29-MAY-1998; 98US-0087727.
XX
PA (UYVA-) UNIV VANDERBILT.
XX
PI Brash AR, Kim RB, Boeglin WE;
XX
DR WPI; 2000-542551/49.
XX
PT Novel isolated and purified nucleic acids encoding human
PT 12R-lipoxygenase protein useful as new target for therapy in psoriasis
PT -
XX
PS Example 1; Column 32; 32pp; English.
XX
CC PCR primers AAA59662-63 were used to amplify cDNA encoding a human
CC 12R-lipoxygenase polypeptide. The enzyme metabolises arachidonic acid to
CC 12R-hydroxyeicosatetraenoic acid. The 12R-lipoxygenase polynucleotide
CC is used as a probe or primer and as a target in gene therapy methods for
CC treating psoriasis and other proliferate dermatoses which have
CC accumulated levels of unusual arachidonic acid metabolite in the skin.
CC It is also used as diagnostic tool to detect normal and abnormal DNA
CC sequences in DNA derived from patient cells, means for detecting and
CC isolating other members of the polypeptide family and related
CC polypeptides from a DNA library potentially containing such sequences,
CC primers for hybridising to related sequences for the purpose of
CC amplifying those sequences, primers for altering native lipoxygenase
CC DNA sequence.
XX
SQ Sequence 29 BP; 2 A; 1 C; 6 G; 20 T; 0 other;

Query Match 50.3%; Score 14.6; DB 21; Length 29;
Best Local Similarity 81.0%; Pred. No. 3.3e+03;
Matches 17; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Qy 7 tttggtcgttcgttctgtttt 27
|||| | ||| ||| ||||||
Db 3 tttgcttgtttgttttgtttt 23

RESULT 15
AAX64475/c
ID AAX64475 standard; RNA; 54 BP.
XX
AC AAX64475;
XX
DT 20-JUL-1999 (first entry)
XX
DE Rabbit stromelysin hairpin ribozyme SEQ ID NO:1107.
XX
KW Arthritic condition; graft tolerance; immune response; target; cleavage;
KW hammerhead ribozyme; hairpin ribozyme; human; rabbit; mouse; collagenase;
KW stromelysin; synovial membrane; joint; arthritis; osteoarthritis;
KW rheumatoid arthritis; autoimmune disease; allergy; inflammation;
KW diagnosis; ss.
XX
OS Synthetic.
OS Oryctolagus cuniculus.
XX
PN WO9618736-A2.
XX
PD 20-JUN-1996.
XX
PF 22-NOV-1995; 95WO-US15516.
XX
PR 05-OCT-1995; 95US-0541365.
PR 13-DEC-1994; 94US-0354920.
PR 23-DEC-1994; 94US-0363253.
PR 23-DEC-1994; 94US-0363254.
PR 17-FEB-1995; 95US-0390850.
PR 20-APR-1995; 95US-0426124.
PR 02-MAY-1995; 95US-0432874.
PR 04-MAY-1995; 95US-0434509.
PR 07-JUL-1995; 95US-0000951.
PR 07-JUL-1995; 95US-0000974.
PR 07-AUG-1995; 95US-0512861.
XX
PA (RIBO-) RIBOZYME PHARM INC.
XX
PI Draper K, Gustofson J, McSwiggen J, Pavco P, Stinchcomb DT;
PI Beigelman L, Karpeisky A, Modak A, Usman N, Burgin A;
PI Matulic-Adamic J, Jarvis T, Thompson JD, Wincott F;
XX
DR WPI; 1996-300653/30.
XX
PT Enzymatic nucleic acid molecules having a hammer-head motif - used
PT for the treatment of arthritis, induction of graft tolerance or
PT treatment of auto-immune diseases
XX
PS Example 1; Page 165; 307pp; English.
XX
CC The present invention describes a novel enzymatic nucleic acid (ENA)
CC having a hammerhead motif (HM) comprising: (i) at least 5 ribose
CC residues; (ii) a 2'-C-allyl modification at position 4 of the ENA; (iii)
CC at least ten 2'-O-methyl modifications; and (iv) a 3'-end modification.
CC The ENA's can inhibit collagenase and stromelysin production in the
CC synovial membrane of joints for the treatment or prevention of arthritis,
CC particularly osteoarthritis or rheumatoid arthritis. The ENA's can also
CC be used to treat antigen presenting cells of a donor to induce tolerance
CC in a recipient to an alloantigen of a donor. They can also be used for
CC enhancing graft tolerance or for treating autoimmune disease, and for
CC treating allergies and other inflammatory conditions. The ENA's can also
CC be used in diagnosis. Ribozyme therapy impacts on the expression of
CC stromelysin without introducing the non-specific effects upon gene
CC expression which accompany treatment with retinoids and dexamethasone.
CC The concentration of ribozyme required to affect a therapeutic treatment
CC is lower than that required of antisense molecules, and is highly
CC specific. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 54 BP; 21 A; 10 C; 13 G; 10 U; 0 other;

Query Match 50.3%; Score 14.6; DB 17; Length 54;
Best Local Similarity 69.0%; Pred. No. 3.5e+03;
Matches 20; Conservative 0; Mismatches 9; Indels 0; Gaps 0;

Qy 1 tttggctttggtcgttcgttctgttttca 29
| | || |||||| | |||| || |||
Db 30 TGTTTCTCTGGTCGGTTCTTCTTTTCTCA 2

Search completed: March 9, 2002, 01:06:57
Job time: 11943 sec